

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P473896

Luminaire Tested: **24CZ2-110VHE-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P473896
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-110VHE-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,RIBBED LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

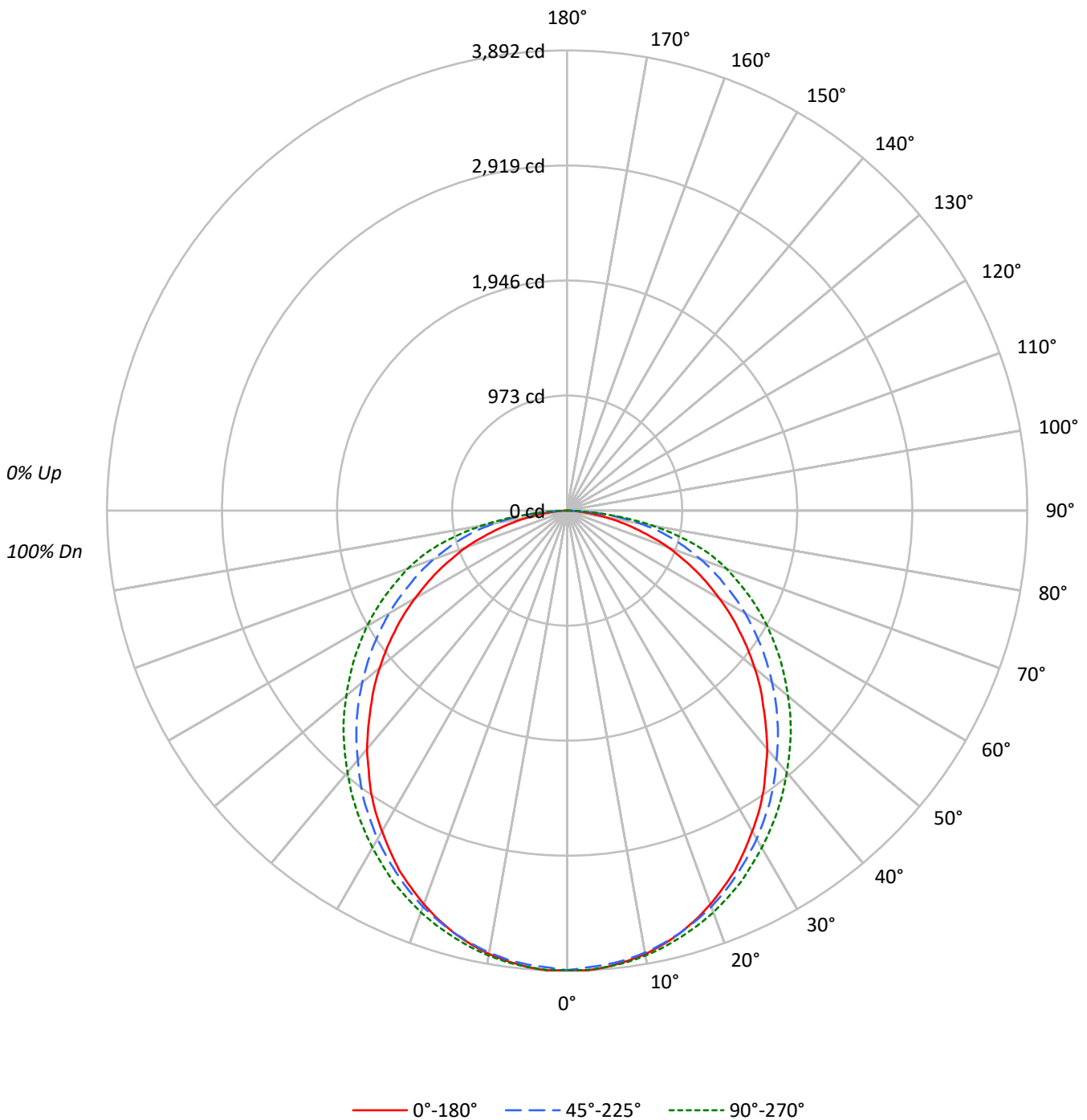
Lumens per Lamp: N/A
Luminaire Lumens: 11248.6 lumens
Efficiency: N/A
Efficacy: 146.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 77
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	89	82	76	95	88	81	75	84	78	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	79	68	59	53	65	58	52	63	57	51	61	55	51	48
5	75	62	53	46	73	61	52	46	58	51	45	56	50	44	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	37
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5230	5230	5230
5°	5233	5206	5233
10°	5204	5187	5221
15°	5151	5149	5199
20°	5074	5105	5178
25°	4986	5042	5153
30°	4865	4983	5116
35°	4755	4919	5095
40°	4625	4839	5075
45°	4468	4789	5090
50°	4333	4736	5105
55°	4173	4702	5162
60°	4000	4680	5257
65°	3813	4663	5392
70°	3589	4711	5640
75°	3156	4809	5867
80°	2633	4844	5660
85°	1880	4153	4208



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.4	3.3
10°-20°	1046.6	9.3
20°-30°	1570.2	14.0
30°-40°	1874.6	16.7
40°-50°	1941.8	17.3
50°-60°	1787.6	15.9
60°-70°	1442.0	12.8
70°-80°	942.2	8.4
80°-90°	276.2	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2984.2	26.5
0°-40°	4858.9	43.2
0°-60°	8588.2	76.3
0°-90°	11248.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11248.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3887	3887	3887	3887	3887	
5°	3874	3871	3854	3876	3874	368
15°	3698	3698	3696	3733	3733	1042
25°	3358	3366	3396	3458	3471	1544
35°	2895	2920	2995	3077	3102	1808
45°	2348	2406	2517	2630	2675	1815
55°	1779	1855	2004	2152	2201	1592
65°	1198	1279	1465	1632	1694	1184
75°	607	721	925	1085	1128	648
85°	122	211	269	285	273	151
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3887.1	3887.1	3887.1	3887.1	3887.1
2.5°	3892.5	3887.1	3867.1	3890.7	3888.9
5°	3874.4	3870.7	3854.4	3876.2	3874.4
7.5°	3845.3	3843.5	3830.8	3854.4	3854.4
10°	3808.9	3805.3	3796.2	3823.5	3821.7
12.5°	3758.1	3756.2	3750.8	3783.5	3781.7
15°	3698.1	3698.1	3696.3	3732.6	3732.6
17.5°	3625.4	3627.2	3634.5	3676.3	3678.1
20°	3543.6	3550.9	3565.4	3612.7	3616.3
22.5°	3450.9	3465.5	3485.5	3538.2	3543.6
25°	3358.3	3365.5	3396.4	3458.2	3470.9
27.5°	3245.6	3263.8	3303.7	3367.4	3380.1
30°	3131.1	3156.6	3207.4	3272.9	3292.8
32.5°	3018.4	3040.2	3100.2	3174.7	3198.3
35°	2894.9	2920.3	2994.8	3076.6	3102.0
37.5°	2758.6	2798.6	2876.7	2971.2	2998.5
40°	2633.2	2669.5	2754.9	2860.3	2889.4
42.5°	2489.6	2535.1	2638.6	2745.9	2782.2
45°	2347.9	2406.0	2516.9	2629.6	2675.0
47.5°	2215.2	2262.5	2393.3	2520.5	2560.5
50°	2069.8	2124.4	2262.5	2396.9	2438.7
52.5°	1926.3	1991.7	2131.6	2273.4	2318.8
55°	1779.1	1855.4	2004.4	2151.6	2200.7
57.5°	1637.3	1713.7	1868.1	2024.4	2075.3
60°	1486.5	1568.3	1739.1	1889.9	1953.5
62.5°	1341.1	1422.9	1602.8	1766.4	1826.3
65°	1197.6	1279.3	1464.7	1631.9	1693.7
67.5°	1048.5	1137.6	1335.7	1497.4	1557.4
70°	912.3	997.7	1197.6	1370.2	1433.8
72.5°	756.0	857.7	1061.3	1232.1	1292.1
75°	607.0	721.4	925.0	1084.9	1128.5
77.5°	468.8	583.3	786.9	906.8	934.1
80°	339.8	456.1	625.1	708.7	730.5
82.5°	219.9	339.8	452.5	508.8	516.1
85°	121.8	210.8	269.0	285.3	272.6
87.5°	43.6	80.0	78.1	63.6	50.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)